

a UPS-processor housing containing the UPS processor and being displaced from the plurality of battery housings; and

a power output coupled and configured to selectively provide power from one of the power input and the plurality of batteries.

51. (New) The system of claim 50 wherein the plurality of battery-monitor processors are coupled in series.

52. (New) The system of claim 51 wherein the plurality of battery-monitor processors includes at least first and second battery-monitor processors coupled in series, the first battery-monitor processor coupled and configured to transfer commands received from the UPS processor to the second battery-monitor processor and to transfer monitor data received from the second battery-monitor processor to the UPS processor.

53. (New) The system of claim 52 wherein the plurality of battery-monitor processors further includes at least a third battery-monitor processor coupled in series with the first and second battery-monitor processors, the second battery-monitor processor coupled and configured to transfer commands received from the first battery-monitor processor to the third battery-monitor processor and to transfer monitor data received from the third battery-monitor processor to the first battery-monitor processor.

54. (New) The system of claim 50 wherein each of the plurality of batteries comprises a battery pack comprising a plurality of series-coupled batteries.

55. (New) The system of claim 54 wherein each battery pack comprises four series-coupled batteries.

56. (New) The system of claim 55 wherein each battery of each battery pack is an approximately 12-volt battery.

57. (New) The system of claim 54 wherein each battery pack includes a respective service indicator configured to indicate a status of the associated battery pack, and wherein each respective battery-monitor processor is coupled to the service indicator of the respective battery pack and configured to actuate the service indicator of the respective battery pack in accordance with data associated with the respective battery pack determined by the respective battery-monitor processor.

58. (New) The system of claim 50 wherein the battery-monitor processors are configured to determine the monitor data from charging currents, discharging currents, and voltages associated with corresponding batteries.

59. (New) The system of claim 50 wherein the UPS processor is configured to process the monitor data to determine a number of batteries that are at least one of being charged, at a float voltage, at an overtemperature, and that are substantially fully capable of delivering power to the load.

60. (New) The system of claim 50 wherein the UPS processor is configured to determine a number of batteries for which service is desirable.

61. (New) A UPS system for providing backup power to a load, the system comprising:

- a power input;
- a UPS processor;
- a UPS-processor housing containing the UPS processor;
- a plurality of battery packs coupled in parallel, each battery pack including a plurality of series-coupled batteries;
- a plurality of battery-pack housings each containing a respective one of the battery packs and each being separate from the UPS-processor housing;
- a plurality battery-pack monitor means disposed in respective ones of the battery-pack housings, the plurality of monitor means being daisy-chain coupled to each other and coupled to respective ones of the battery packs for monitoring battery pack

information, processing the battery pack information, and transferring processed battery pack information toward the UPS processor; and

a power output coupled and configured to selectively provide power from one of the power input and the plurality of battery packs;

wherein the UPS processor is coupled and configured to receive and further process the processed battery pack information to determine characteristics associated with the battery packs.

62. (New) The system of claim 61 further comprising a first input and a first output coupled to each monitor means, wherein each monitor means is for transferring commands received on the respective first input to the respective first output that is connected to a monitor means disposed downstream from the respective monitor means relative to the UPS processor, and for transferring processed battery pack information received from the monitor means disposed downstream on a second input to a second output.

63. (New) The system of claim 62 wherein the commands comprise clock signals and wherein the monitor means are each configured to transfer a first bit of processed battery pack information into the second input and a second bit of processed battery pack information out of the second output in response to receiving one of the clock signals on the first input.

64. (New) The system of claim 63 wherein the UPS processor is configured to send the clock signals to the plurality of monitor means until the UPS processor stops receiving processed battery pack information.

65. (New) A power source for use in a UPS system, the power source comprising:

a housing;

a plurality of batteries contained by the housing and coupled in series;

an upstream input configured to couple to an upstream output of a first other power source;

an upstream output configured to couple to at least one of an upstream input of a second other power source and an input of a UPS processor external to the power source;

a downstream input configured to couple to at least one of an output of the UPS processor and a downstream output of the second other power source;

a downstream output configured to couple to a downstream input of the first other power source; and

a battery monitor processor coupled to the batteries and to the upstream input, the upstream output, the downstream input, and the downstream output, and configured to obtain first data associated with operation of the batteries, to process the first data into second data comprising multiple bits, and to transfer the bits to the upstream output.

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Dm

66. (New) The power source of claim 65 wherein the battery monitor processor is configured to transfer a first bit of information, the first bit being one of a bit of the second data and a bit of processed battery data received from the first other power source, to the upstream output and to accept a second bit of information on the upstream input from the first other power source in response to receiving a signal on the downstream input.

67. (New) The power source of claim 66 wherein the battery monitor processor is configured to transfer the signal received on the downstream input to the downstream output.

68. (New) A method of determining information regarding a plurality of battery packs of a UPS system, the UPS system including a UPS processor, the method comprising:

monitoring data associated with each of the battery packs;

processing the monitored data in a plurality of battery-pack processors corresponding to the plurality of battery packs to determine a data word for each of the

battery packs, the data words being indicative of operational status of the battery packs, the battery-pack processors being serially coupled to the UPS processor; and transferring the data words from each of the battery-pack processors toward the UPS processor via any intervening battery-pack processors.

Sub D3 contd
69. (New) The method of claim 68 further comprising transferring command signals from the UPS processor to each of the battery-pack processors via any intervening battery-pack processors.

C contd
70. (New) The method of claim 69 wherein transferring the data words occurs at each battery-pack processor in response to receiving the command signals.

71. (New) The method of claim 70 wherein transferring the data words comprises transferring one bit of each of the words for each command signal received, respectively.

72. (New) The method of claim 69 wherein the command signals are clock signals.

REMARKS

In response to the Office Action dated March 13, 2002, Applicants respectfully request reconsideration.